

Mass Fatality Management In A Pandemic Influenza Event

**Mass Fatalities
Conference Arizona
July 18 & 19**

**Presenter - John T. Nesler
Senior Research Scientist
Battelle (757) 203-7245**

If We Had Known, What Would We Have Done Differently?



We Know About PI !

What Are We Going to Do Different ?



WVEC-TV

What is a Pandemic Influenza

- A global outbreak of disease that occurs when a new influenza A virus appears or “emerges” in the human population, causes serious illness, and then spreads easily from person to person world-wide.
- Different from seasonal outbreaks or epidemics:
 - Seasonal outbreaks are caused by subtypes of influenza viruses that already circulate among people.
 - Pandemic outbreaks are caused by new subtypes, by subtypes that have never circulated among people, or by subtypes that have not circulated for a long time.
- Past pandemics have led to high levels of illness, death, social disruption and economic loss.

Source – Centers for Disease Control

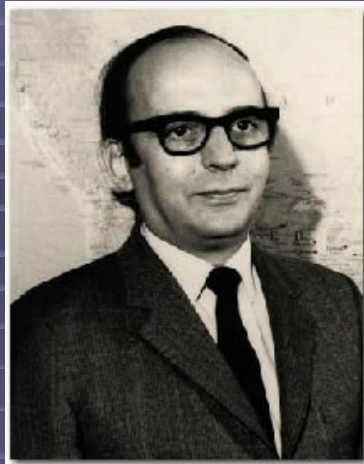
Recent Historic Pandemics

- **The "Asiatic Flu", 1889–1890.** It was purportedly caused by the H2N8 type flu virus and had a very high mortality rate.
- **The "Spanish Flu", 1918–1919.** It spread to become a world-wide pandemic. This H1N1 virus was deadly and virulent. The CDC estimates the total related deaths worldwide at over 50 million and US deaths at 675,000 plus.
- **The "Asian Flu", 1957–58.** The Asian flu spread to the US by June 1957. This H2N2 virus caused about 70,000 deaths in the US.
- **The "Hong Kong Flu", 1968–69.** An H3N2 caused about 34,000 deaths in the US. This virus was first detected in Hong Kong in early 1968 and spread to the US later that year.

The PI That Never Was - 1976 Swine Flu



The precursor of a new PI



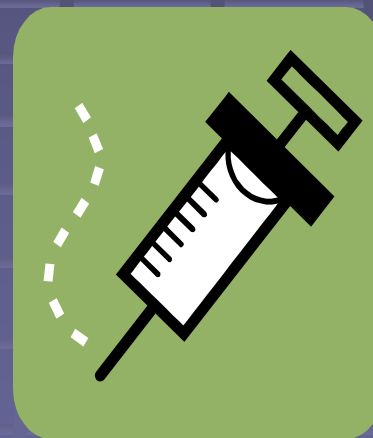
CDC Director Dr.Sensor



President Ford Acts



Vaccine Manufacturers Indemnified



Public starts getting Vaccinated – No PI



Vaccine-Related Guillain-Barré syndrome

A Case of Natural Law “No Good Deed Goes Unpunished”

The 1976 Swine Flu PI That Never Happened

- In 1976, 19-year-old Pvt. David Lewis died from an influenza. This virus was thought to be a precursor of a new PI rivaling the that of the 1918 Spanish Flu.
- Then, CDC Director, Dr. David Sencer, argued forcefully that the only way a pandemic could be halted was through a program that would immunize most of the US population
- President Ford gathered top medical experts for a conference in which he asks at least twice whether anyone present had any reservations about the recommended CDC vaccination program. There was no dissent.
- The vaccine manufacturers had anticipated the potential for serious side effects from the vaccines they manufactured and had insisted on indemnification by the federal government before releasing pandemic vaccine.

The 1976 Swine Flu PI That Never Happened

- The Swine Flu never developed.
- But within months of the vaccination campaign a “Minnesota physician reports to his local health authorities a patient who had contracted an ascending paralysis, called Guillain-Barré syndrome, following swine flu immunization.
- Eventually, 532 cases of vaccine-related Guillain-Barré syndrome and at least 25 deaths occurred.
- America's public health establishment identified what could have been a new plague and proactively mobilized to beat it.
- The swine flu response of 1976 forever reduced confidence in public health pronouncements from the government and helped foster cynicism about federal policy makers that continues to this day.

A case of natural law “no good deed goes unpunished?”

A 1918 Pandemic Story



Influenza 1918 – PBS The American Experience

A 1918 Pandemic Story



Influenza 1918 – PBS The American Experience

Why is PI Preparedness Important to ME/C's & Emergency Managers

- The potential high volume (mortality rates) with a corresponding reduction in response resources.
- Diminished response capabilities by other entities that influence how you or others important to you get things done.
- It takes time to plan, educate, build the right relationships, budgets, and contingencies for the needed actions.
 - This is particularly difficult when many budgets are constricting and there are always the skeptics.

Why is PI Preparedness Important to You



- <http://images.usnews.com/usnews/health/video/video/leavitt512k.wmv>

- A pandemic disease cannot be managed from outside the affected community; each community must face the possibility of responding to influenza with minimal external resources or support – or none at all.

General US Funeral Industry Statistics

- The total dispositions in 2004 (provisional data) was 2,393,000
- 30% of the dispositions were cremated where as 70% are earth burials
- The average earth burial cost range from \$7,000 to \$10,000 depending on which part of the country you are located. The funeral includes services such as visitation, flowers, obituary, liner, casket, etc.

The March PI Mass Fatality Management (MFM) Conference

- On 22-23 March 2006, a cross section of 48 experts from the mortuary affairs community came together at Fort Monroe, VA for a two-day working group on PI MFM. (Hosted by USNORTHCOM & DHHS)
- This group included local, state, and federal, NGO's, and private industry representation.
- The goal was to identify major issues, examine and select potential solution sets and move to provide actionable recommendations to leaders within our sphere of influence as they relate to a pandemic influenza mass fatality event preparedness.

It's the Planning Process, Its Not Necessarily the Plan.

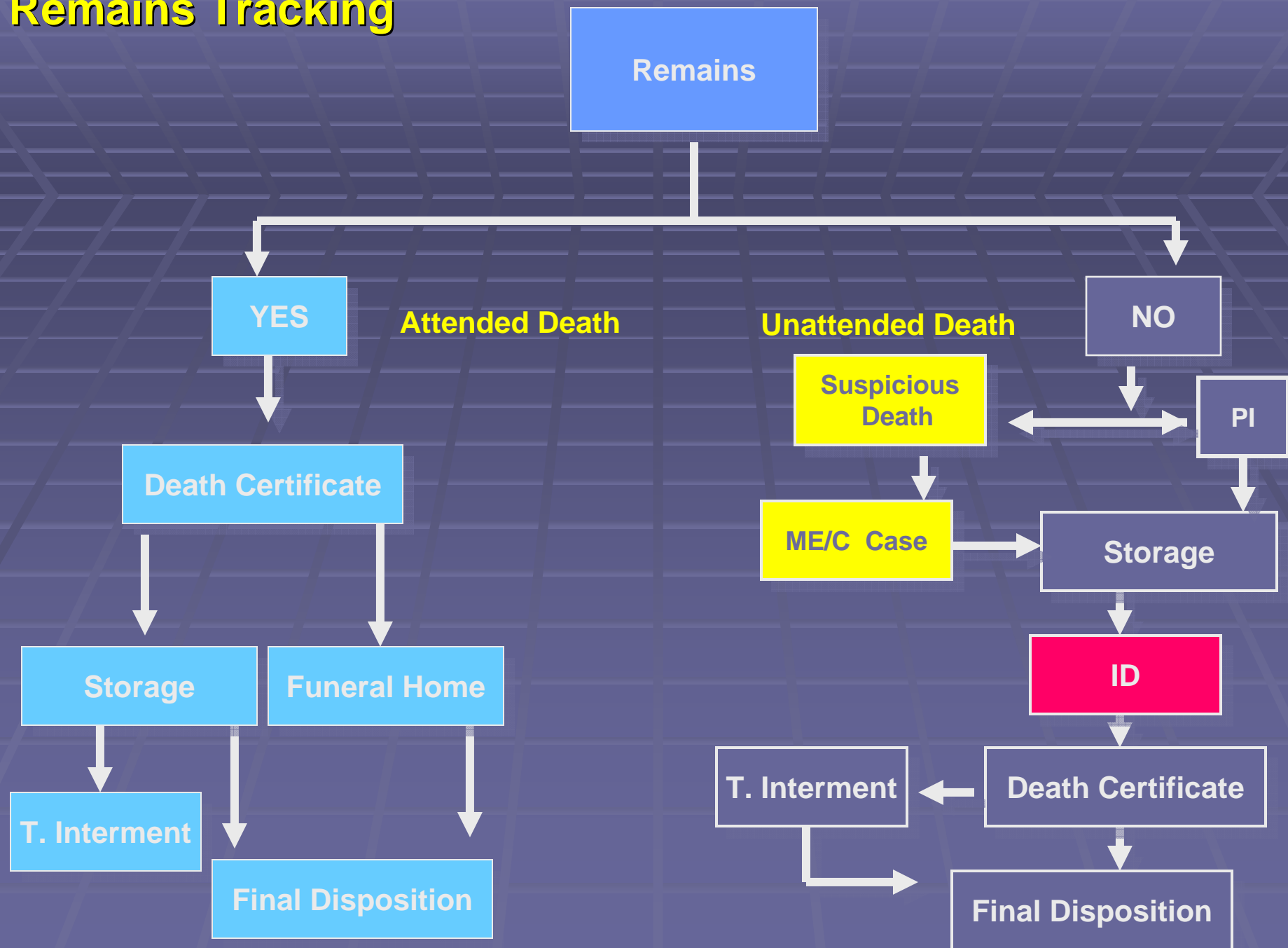
- The planning process brings; coordination, team building, networking, trust, and general mutual understanding. It can provide:
- Who are your potential partners and how are you framing institutionalized relationships with them? What do your partners need to be successful?
 - Media, medical professionals, faith based organizations, cold storage facilities, transportation, cemetery owners, engineer support, internet providers, phone banks, retailers, public works, the military and others

The Planning Process

- A way to frame the problems and recommend the best courses of action for decision makers.
- A means of identifying how the decisions are made in your organization and who makes them.
- An opportunity to assign roles and responsibilities.
- A way to identify the gaps and seems and examine methods to address the issues.

Level of Crisis	Positive or Presumptive Identification	Pronounce (Local Authority)	Collect Death Scene info PI / non-PI / Violent	Contain	▪ Analysis ▪ Reporting	Track (COC) HR&PE	Transport
Tier I (Normal)	<ul style="list-style-type: none"> ▪ LE ▪ ME ▪ Coroner ▪ Hospital 	<ul style="list-style-type: none"> ▪ LE ▪ ME ▪ Coroner ▪ Funeral Director 	<ul style="list-style-type: none"> ▪ ME ▪ Coroner ▪ Physician 	<ul style="list-style-type: none"> ▪ Human Remains Pouch (HRP) 	<ul style="list-style-type: none"> ▪ Public Health 	<ul style="list-style-type: none"> ▪ Standard operating Procedures (SOP) 	<ul style="list-style-type: none"> ▪ Morgue ▪ Funeral Homes ▪ EMS
Tier II (Surge)	Above + <ul style="list-style-type: none"> ▪ Funeral Directors 	Above + <ul style="list-style-type: none"> ▪ Non-Physician Licensed Medical professionals 	Above + <ul style="list-style-type: none"> ▪ Non-Physician Licensed Medical professionals 	<ul style="list-style-type: none"> ▪ Human Remains Pouch (HRP) 	<ul style="list-style-type: none"> ▪ LE ▪ Physicians 	<ul style="list-style-type: none"> ▪ Bar Code ▪ RFID 	<ul style="list-style-type: none"> ▪ Refrig trucks ▪ Temp Morgues ▪ Private Contractor
Tier III (Crisis)	Above + <ul style="list-style-type: none"> ▪ Family ▪ Co-worker ▪ Neighbor 	Above + <ul style="list-style-type: none"> ▪ Non-Physician Non-Licensed Medical professionals 	Above + <ul style="list-style-type: none"> ▪ Non-Physician Non-Licensed Medical professionals 	<ul style="list-style-type: none"> ▪ Field Exp 	<ul style="list-style-type: none"> ▪ Family 	<ul style="list-style-type: none"> ▪ Field Exp 	<ul style="list-style-type: none"> ▪ Gov Workers ▪ National Guard ▪ State Militia ▪ DOD
Tier IV (Overwhelmed)	Above + <ul style="list-style-type: none"> ▪ Witness 	Above + <ul style="list-style-type: none"> ▪ Deputized Volunteer 	Above + <ul style="list-style-type: none"> ▪ Deputized Volunteer 	<ul style="list-style-type: none"> ▪ Limited 	<ul style="list-style-type: none"> ▪ Limited 	<ul style="list-style-type: none"> ▪ Field Exp 	<ul style="list-style-type: none"> ▪ Non-Govt Workers ▪ Family

Remains Tracking



PI Context Analysis

- The impact of globalized production/distribution and “just in time” goods and services in the chaos of a PI will effect us in ways we have not thought about before.
- What are the local conditions - Productivity, Quarantine, Communications, Public & Private Services, and others
- This analysis should include first, second and even third order of effects.

“It’s tough to make predictions, especially about the future” Yogi Berra

Take Care of your Employees

- Maybe the most significant action you can take is the development of an employee safety and employee family care program.
 - Identify and develop potential solution sets with the workforce to cope during a contagious bio environment. (Determined Promise 03)
 - This includes things like child care, parent care, animal care, mental health, pre-event health education, pharmaceutical management, financial issues, food and water, security, and others.

Mental Health and the MA Workers

- Family vs. Mission
 - “Which Direction Do You Run?”
 - What are the rules and are they for everybody?
- Social Upheaval
 - Feelings of Hopelessness, “Got Nothing to Lose”
 - “Who gets the lifeboats?”
 - Medical care, anti-virals, vaccines, and protective gear
- Sensory overload
 - The invisible threat
 - “So many, so fast, and by the way they're friends, neighbors, and family members”.

Getting the “Right” Information Out



Outbreak – Time Warner - Mr. Caplin

- It takes a coordinated team effort from all levels of government, but must also include the private sector and media.
 - What is the government/commercial relationship in mass fatality management ?
 - The media is a means of communicating and getting your information, your message, and your story out.

Health Officials Wrap up First Pandemic Flu Summit

The Providence Journal 01:00 AM EDT on Saturday, July 1, 2006

BY FELICE J. FREYER Journal Medical Writer

Bodies will be piled, respectfully, in ice-skating rinks and refrigerated trucks. Relatives will be asked to identify them by photo rather than direct sight. **Trained laypeople will determine that death occurred naturally**, filling in for overburdened medical examiners.

Those are among the plans that health officials from seven states agreed on this week, as they considered how state governments would respond to a worldwide flu pandemic. The worst-case scenarios call for such a flu pandemic to kill 2 million Americans and 6,700 Rhode Islanders. **That's more bodies than hospital morgues can handle.**

Family Assistance and Public Inquiries

9/11 Pentagon	Actual Pentagon Family Assistance Center Statistics	Projection for 10,000 Fatalities (Pentagon Baseline)
Number of Families Assisted	170 of 184 Families	9,239 of 10,000 Families
Number of Calls Received	10,000 Calls	544,000 Calls
Number of Counseling Contacts	22,800 Contacts	1,300,000 Contacts
Number of Family Members at Pentagon Memorial Service	2312 Family Members	126,000 Family Members
Number of DNA Samples Collected	176 Samples	11,000 Samples

Faith Communities Involvement

- They could potentially assist in the following:
 - Death notifications
 - Mortuary and funeral guidance/education
 - Issues of burial practices (Religious Adviser)
 - Preparation of remains
 - Questions about cremation
 - Concerns about delayed interment
 - Bereavement counseling
 - Memorial services
 - Long-term family adjustment support

DOD to the Rescue? Don't Count on It!



Military - Civil Support

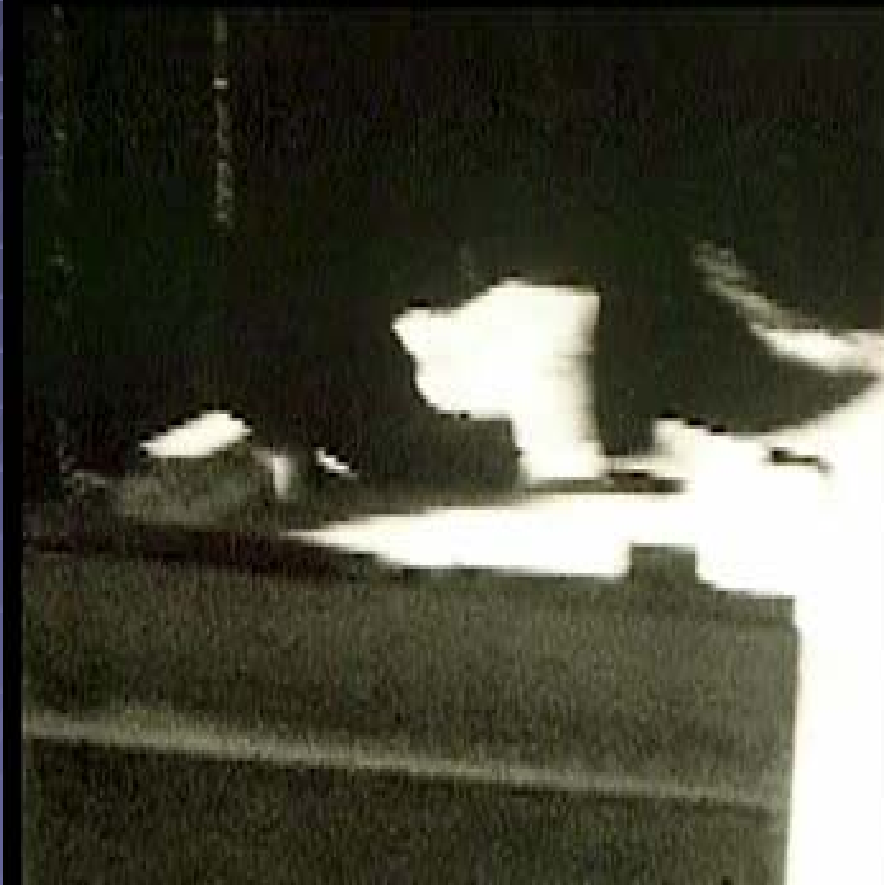
“Who Will Be Helping Who?”

- **The Global War on Terrorism doesn't stop because of a PI.**
- **DOD MA is based on a distributive system and dependant on the private sector in the overall processing and disposition of military remains.**
- **Some operations where the military might be able to assist include:**
 - Advisory Support
 - Search and Recovery
 - Reception Operations
 - Remains Storage Assistance
 - Administration and Logistics Support
 - Disposition Assistance

Legal Considerations

- **The issuance and processing of death certificates**
- **Various public health laws**
- **Certain state and federal consumer protection laws**
- **Cremation and burial laws**
- **Environmental laws**
- **Work place safety and health laws**
- **Jurisdiction**

The Challenge



Influenza 1918 – PBS The American Experience

- We know, now what are we going to do different?
 - The reoccurrence of a pandemic influenza appears certain.
 - What is your role as a change agent?

PI References

- <http://pandemicflu.gov/general/>
- <http://en.wikipedia.org/wiki/Pandemic>
- *Key Facts About Avian Influenza, or (Bird Flu) and Avian Influenza A (H5N1) Virus*
www.cdc.gov/flu/avian/gen-info/facts.htm
Includes specific information about avian Influenza in Asia and Europe.
- *More Flu Viruses Around than Expected, Mutate in Unexpected Ways*
accessexcellence.org/WN/SU/flu/genestorynov05.htm
Explains viral co-infection and reassortment, and discusses the 1918 flu.
- *Scientists Identify Step in Process of Flu Virus Infection*
usinfo.state.gov/gi/Archive/2005/Oct/24-394830.html
Details how a flu virus infects a cell.
- *Tiptoeing Around Pandora's Box*
www4.od.nih.gov/oba/RAC/SSSept04/pdf/Flu%20biosafety%20Science%20July04.pdf
Describes the structure of avian and human influenza and how the two virus genomes can reassort in a host cell.
- *WHO:H5N1 avian influenza: a chronology of key events*
who.int/csr/disease/avian_influenza/chronology/en/
Dates the spread of avian influenza and explains each case.

PI References

- http://www.usnews.com/usnews/health/articles/060509/9summit_video.htm